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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

AUG 4 1928

REPORT FOR WEEK ENDING AUGUST 4, 1928.

HAVRE:

The past week was quite favorable for all crops. A total of .57 inch of rain was recorded on the 31 and 1. Temperatures were not excessive. The maximum temperatures were in the 80's with the exception of the 30, when it was 91, and on the 1, when rain fell practically all day it was 62. Minimums have been in the 50's each night.

Harvesting started the last two days. Nearly all of the oats on the rotations are in the shock. Barley and winter wheat are just about ready and all of the early oats in the nursery. Spring wheat will not be ready for a few days yet. Flax is progressing normally and indications now are that corn will be very good. It is mostly tasselled and in some cases the silks are browned.

Range grass continues to grow. Gramma grass is heading very profusely in many places. There is no indication at this time of grass curing which may be a detriment for producing beef. Second cutting irrigated alfalfa is cut. The weights on all second cutting alfalfa in experimental work have been secured. Most of the grain hays on the plats were harvested during the week.

Professor G.L.Tiebolt, State Horticulturist from Louisiana, and Mr. E.E.Isaacs, Extension Horticulturist for Montana, were at the station on the 2 with a small bunch who were on a tour of inspection of potatoes for this section of Montana.

Maximum temperature 91, Minimum 52; Precipitation .52 inch.

MOCCASIN:

The rainfall for July was 2.77, compared to the normal of 1.82. The maximum temperature for the month was 87 on the 30, while the minimum was 43 on the 3 and 8.

Spring grains continue to develop with excellent yields in prospect. Wheat is filling well. Barley is looking better than for several years. Early seeded oats is rpiening rapidly.

All alfalfa on the station has been cut; all the experimental forage crops returned lower than normal yields due to the early spring drought. Sweet clover has produced the best yields in the hay and pasture tests.

Row crops are thriving. Potatoes have been sprayed and are looking very promising. Grain harvesting is just starting in the earliest fields.

Dr. Fellows, working on wheat diseases for the U S Department of Agriculture, was called into the Basin to investigate the condition of winter wheat. The wheat blight, Helminthosporium, was found on the winter wheat fields seeded prior to September 1927. A review of the conditions show that the fall of 1927 was very favorable for the development of this disease, as the wheat had a thick heavy growth and went through a long, fairly warm season. These conditions together with the prolonged dry period this spring

Moccasin, contd.

has resulted in very low yields on the early seeded winter wheat. Some spring wheat reseeded in diseased winter wheat fields are also damaged from the blight. Medium date of seeding on good clean fallow is being recommended to avoid damage for another year.

Visitors during the week included Dr. Fellows of the Office of Cereal Crops and Diseases, A.E.McClymonds, Superintendent of the Aberdeen Idaho Station, Professor H.E.Murdock of the Montana Station. The Standford Kiwanis Club and a group of Judith Basin farmers studied the experiments during the week.

Maximum temperature 87, Minimum 44; Precipitation .17 inch.

HUNTLEY:

A shower during the middle of the week refreshed crops that were beginning to show distress from lack of moisture and also terminated the period of hot weather that had been present since the 22 of July.

The warm weather and lack of rain early in the week haatened the maturity of crops and made it possible to harvest the remaining plats of small grains and flax. All such crops are now in the shock.

Field work other than harvesting has consisted of hoeing row crops and fencing the Sudan grass, sorgo, and soy bean pautures to which the hogs were moved from the field pea pasture.

Maximum temperature 96, Minimum 46; Precipitation .20 inch.

SHERIDAN:

Harvest of small grains has been in progress throughout the week. All winter wheat, all of the oats and barley in the rotations, the rates of seeding these two crops, date of seeding Spring Wheat, oats, and barley of May 2 or earlier, and the varieties of barley, have been cut, as well as some fields of barley for feed. Harvesting of spring wheat in the rotations is in progress today. Durum wheat in the rotations is ripening earlier than usual, in proportion to the time of ripening of other grains, but is well filled. Much of the grain was lodged badly and was harvested with difficulty. Some of the wheat in the rotations will not be ready to harvest until some time next week, and the most of that not yet ripe is lodged.

The week generally has been cooler than the previous week, and somewhat unsettled. All late crops, however, made a good growth. Corn was blown over to a considerable extent by heavy winds, but has straightened again. Peas for seed were cut yesterday.

Maximum temperature 91, Minimum 41; Precipitation .21 inch.

DICKINSON:

Hot dry weather early in the week was followed by a rain of 1.22 inches on the night of August 1. This rain was heavier to the east, north and west of the station, and fell so rapidly that short sections of track were washed out on the Northern Pacific about forty miles both to the east and west of Dickinson. No hail fell in this locality, but heavy losses were reported from a few small areas of this region.

Winter rye and early oats and barley were harvested on July 30.

Oats on the rotations with the exception of plats on fallow were harvested August 3 and 4. The grain has filled well, so that the yields should be high.

A few plats of wheat, mainly those on stubble, were harvested. Yields of those harvested will be low, but most others will be well above the average of previous years. Wheat has filled well with no damage from rust.

All fallow plats were worked with the duckfoot on July 30.

Visitors during the week included K.S.Quisenberry, Miss Marion Griffiths, J.A.Clark, and J.H.Martin of the Office of Cereal Crops and Diseases, and Astri Frisak and L.R.Waldron of the North Dakota Experiment Station.

Maximum temperature 93, Minimum 49, Precipitation 1.22 inches.

MANDAN:

Agronomy.

Part of the week has been favorable for field work, but the latter part has been unfavorable because of rain.

The remainder of the hay was hauled in early in the week.

Forage crops in the rotations were cut for the first time early in the week. The cutting was late because of the dry weather early in the season, and wet weather later.

Harvest has started around the country, but very little has been done on the station. Some barley is ready to cut, but harvest will be delayed on account of rain.

A heavy rain with some hail came on the afternoon of the 2, and a heavy rain again at night. The storm was very local. There was some damage on the station, but it does not appear serious today. A good many of the plats are down, but they should straighten up. There was more hail in town than at the station. A heavy hail was reported north of Mandan.

Maximum temperature 92, Minimum 52; Precipitation 1.19 inches.

Mandan, contd.:

Cooperative Grazing Experiment.

The cattle were weighed at the end of July. The gains for July were not as good as had been expected. Grazing was very good in all pastures, but flies were rather bad. The following gains were made for the month of July, and for the season to date.

Pastures	Acres per head	Per head gains-lbs. July	75 das.
100 acres	10	58.5	182.0
70 "	7	67.0	185.0
50 "	5	64.0	157.5
30 "	3	88.5	128.5
Rotations (70 ac.)	5*	59.6	151.0
Bromegrass(25 ac.)	3.1	87.5	173.1
Sweet clover (10 ac.)	2.0	84.0	210.0

*Average for the season, 14 head were on 23 acres for July and 47 acres for 75 days.

The sweet clover pasture is much undergrazed. Six more steers were turned on this pasture at the end of July. It is now being grazed at the rate of 11 steers to 10 acres. The 30-acre steers no doubt made the heavy gain in July, because they had made much less gain than the others earlier in the season.

Horticulture.

Raspberries are yielding bettern than usual this year, while gooseberries and currants gave very poor yields. Even the native Golden or Yellow flowering currants are yielding little fruit this year. Sandcherries and chokecherries are now ripening and are yielding fair crops of good quality fruit. Opata plums are starting to color and will probably be ripe within a week.

Vegetables have been yielding at a great rate this year. Peas, wax, beans, early cabbage and cauliflower, are about finished, with sweet corn, tomatoes, beets, carrots, and late cauliflower, just coming in. The yields of vegetables harvested from the acre garden are about as follows:

Peas	209 Qts.
Wax beans	462 "
Cabbage	714 Lbs.
Cauliflower	211 Lbs.

The vegetable plats have been cultivated and hoed during the week. Bagging and crossing has been carried on in the sweet corn breeding project. Rain and hail during the past few days caused considerable damage to the bags and several crosses were lost.

Arboriculture.

Shelterbelt inspectors are from one to three days behind schedule on account of bad roads. Trees are reported in very good condition, and the prospects of a good crop has apparently increased general interest in tree planting.

During the week the Missouri Slope fair has brought a continuous stream of farmers and tourists to the station. Many of the former sought

Mandan, contd.:

definite information on one or another description of crop. Visitors included Dean Walster and Prof. L.R.Waldron from the Agricultural College, Fargo, North Dakota, and A.L.Norling, County Agent, McLean County, North Dakota, J.Allen Clark, Western Wheat Investigations and John H. Martin, Grain Sorghum Investigations, from Washington, D.C.

BELLE FOURCHE:

The week has been hot and sultry. Several showers were received but no beneficial amount of precipitation was recorded. A high wind, which attained almost cyclonic proportions in certain nearby localities, accompanied a thunder storm on August 1 and did more or less damage to trees and crops. The remainder of the unharvested small grain was lodged, and some corn was broken over.

The hot weather hastened maturity of grain crops, and winter rye, the remainder of the oats, and all except one plat each of winter wheat and spring wheat were harvested. The second crop of sweet clover was also cut, but the yield of hay will be much lighter than from the first cutting. Sorgo and corn have made exceptionally rapid advancement.

Maximum temperature 93, Minimum 51; Precipitation .50 inch.

ARDMORE:

The weather during the fore part of the week was hot and sultry and came cooler with threatening storms during the latter part.

The harvesting of small grain was completed with the exception of a few plats of oats and wheat on spring plowing.

Threshing began on the third. About sixty acres of oats and ten acres of barley were threshed. The average yield of oats was approximately forty seven bushels per acre. The ten acres of barley on fallowed land yielded sixty-two bushels per acre.

Millet and sorgo crops began heading during the week. Corn is in roasting ear stage.

The beef cattle on summer grazing experiment were weighed on the thirtieth. The gain per head made by the respective pastures during the thirty day period are as follows:

150	acre	pasture	63.5 lbs.
160	"	reserve pasture	63.4 "
80	"	pasture	51.0 "
320	"	"	77.5 "

The pigs on self-feeder experiment were weighed the thirty-first. gain per head made during the 14 days period is as follows:

Corn, tankage, oilmeal on dry lot	16.7 lbs.
Corn, tankage, on dry lot	21.1 "
Corn, tankage, oilmeal on alfalfa pasture	18.8 "
Corn, tankage alfalfa pasture	20.6 "

ARCHER:

The weather continued dry and warm until August 3, when a cool wave occurred. Crops have taken on an apparent drought habit of growth peculiar to this section. Burning has ceased to be so apparent, and the development of seed is in progress. Corn, sunflowers, potatoes, millet and beans are in need of rain. Corn has been rolling badly during the week.

The heavy part of the weeding was completed during the first part of the week. When this operation was completed attention was turned to the hauling of winter wheat hay and the harvesting of Smyrna barley in the dairy field. The harvesting of winter wheat on the Dry-Land plats is in progress. Rye from the dairy field and a small quantity of barley for the feeding of the dairy herd have been threshed.

Maximum temperature 90, Minimum 45; Precipitation Trace.

AKRON:

On the whole the week has been favorable for field work. Rains have threatened, but only inconsequential amounts measured. Millet is beginning to burn severely on small grain stubble and early seeded beans are beginning to show the need for more moisture. Corn and the sorghums are holding well as yet. Corn is silking.

The ewes and lambs were given their monthly weighing on Monday. The gains this year are not as pronounced as at this time last year. Part of the Montmorancy cherries were picked early in the week. The yield was only about one-third average, but the quality of the fruit was excellent. The orchards were cultivated, also, the bean and the general forage variety experiments. All open ground not cultivated last week end was duckfoot cultivated.

The remainder of the small grain harvesting was completed Friday evening. The Rotation spring wheat plats were the last of the small grains to be harvested. There remains a few plats of the date of seeding spring grains experiment, not thought of when the first statement was made. Anyway the force feels that the small grain harvest is over, as theoretically it is.

The thresher was busy the most of the week. The threshing of the increase plats of grain was continued. Yields secured were gratifying. One one-fifth acre area of Rosen rye on fallow yielded at the rate off 53 bushels per acre. The Rosen rye reported last week as yielding 45 bushels per acre should have been reported as 48.6 bushels, since 60 pounds per bushel was used in calculating the former yield. The 1/18th of an acre was seeded with the extra large berries fanned from the bulk seed last year. That the bulk seed outyielded the extra large berries is a little contrary to the usual experience. One one-twenty-fifth acre area of Fulghum oats on fallow yielded at the rate of 117.3 bushels per acre. One one-tenth acre area of Club Mariout barley on fallow yielded at the rate of 79.2 bushels per acre.

The Rate and Date Winter Wheat Experiment, and a little more than half the Barley Variety Experiment was threshed by this week end. The September 16th seeding date on fallow was high with an average yield of 48.2 bushels per acre. The September 1 seeding date on corn land was high, with an average yield of 30.7 bushels per acre. The barley varieties thus far threshed indicate a yield of from 40 to 45 bushels per acre on fallow and a

Akron, contd.:

yield offrom 30 to 35 bushels per acre on corn land.
Maximum temperature 94, Minimum; 47; Preceipitation .08 inch.

NORTH PLATTE:

The week went by without rain. Considerable cloudiness and but little wind kept evaporation low, and grain shocks which had been thoroughly soaked by rains the previous weeks dried out slowly. No threshing has yet been done. With dry weather continuing, grain will be ready in another day or so. There has been much sprouting and grain will be of inferior grade. Corn never looked better at this season of the year.

The second cutting of alfalfa has just been put in the stack. The yield is excellent, but the quality rather poor on account of poor curing conditions.

Some trouble has been experienced for the first time on the station from bloat of both cattle and sheep on weedy pastures.

COLBY:

Work during the week consisted of weed killing and preparation for threshing. Hoeing consisted of clean-up work on fallow plats and milo plats. Milo is growing nicely. The listed milo and the surface planted were cultivated during the week. Corn is growing nicely and the project is just about fully silked. The frequent rains have been excellent for corn. Many corn fields are weedy, but for the most part are clean.

A rather severe hail storm hit the west and southwest part of the county a week ago. The weather during the week has not brought much rain on the station, but showers of appreciable extent and amount have just missed the station. Combining and wheat harvest goes on rather slowly. Some few are finishing harvest.

GARDEN CITY:

Good growing conditions have prevailed during the past week. All row crops are making a rapid growth. The early planted sorghums are beginning to head and corn is just starting to tassel. It seems that all row crop has a heavier vegetative growth than normal.

Field work consisted of weeding fallows, plowing the date block for winter wheat and hoeing roadways and alleys. Moisture has ruined the wheat that was cut with the mower and the crop will be hauled off the coming week, in order to allow for the preparation of the new seedbed.
Maximum temperature 90, Minimum 58; Precipitation .79 inch.
Precipitation since January 1, 25.57 inches.

DALHART:

Fair weather prevailed during most of the week, with very little wind or cloudiness. During the late afternoon Friday clouds began to form in the west and just before 5.00 p.m. a heavy dust storm crossed near the station, in the form of a young cyclone. Immediately following this dust a hart dashing rain came which lasted for about 20 minutes. This was one of the hardest rains we have had in a number of years. After this hard spell of wind and rain subsided, it continued to rain at spells for about an hour then stopped. One inch was recorded.

The field work this week has consisted of cultivating and hoeing. The cultivating was nearly completed when the rain occurred. Some rogueing was also done, in the date variety planting.

The crops are making excellent headway. A number of varieties are headed and others heading. Kafir on the rotations is in the boot. Several plats of Sudan grass on rotations are ready to harvest as soon as the ground dries out sufficiently to run the binder. This harvest was planned for today, but had to be postponed on account of the rain.

Maximum temperature 94, Minimum 58; Precipitation 1 inch.

BIG SPRING:

Excellent growing conditions have prevailed during the past week, and as a result all crops have made a very rapid growth. Cotton is making a good stalk growth and is fruiting well; if the insects do not do too much damage this year, some good yields should be obtained.

Kafir in the rotations is heading and milo is just starting to head; many of the varieties in the grain sorghum variety test have also headed. At the present time prospects are better this year for good yields of all crops on the station than they have been for several years.

All plats in the rotations were cultivated during the week, and also an increase field of milo and cowpeas. A plat of pinto beans was planted July 31, and three winter wheat plats were plowed at this time. Two varieties of grapes were picked. Other work consisted of dragging roadways and harrowing orchard and vineyard.

Maximum temperature 95, minimum 63; Precipitation 1.10 inches.

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U. S. DEPARTMENT OF AGRICULTURE

AUG 11 1928

REPORT FOR WEEK ENDING AUGUST 11, 1928.

HAVRE:

The past week was very favorable for maturing small grains and for harvesting. Harvesting has been progressing as rapidly as possible on the station. Aside from spring wheat on the rotations and some of the later dates, all small grains are in the shock.

A few combines are starting on spring wheat in this vicinity and the combine harvest will be on next week in full blast. There has been a large number of machines sold during the past month.

Corn is making rapid development and from present prospects will mature.

Miss Marion A. Griffiths from the Office of Cereal Crops and Diseases has been at this station the last two days taking notes on the smut nursery which was grown on this station this year.

Maximum temperature 97, minimum 53, precipitation trace.

JUDITH BASIN:

The warmest weather of the season was experienced during the week. This was very favorable to corn and grain crops.

Most of the winter wheat on the Station is harvested with poor prospective yields in the early seeding and only fair yields on the more favorable methods. Combines are just starting in the early sections of the Basin. A few small fields have been cut with binders.

The early oats on methods and date of seeding have been harvested. The early maturing spring wheats are ready to cut and other grain crops are developing rapidly.

All the alfalfa has been harvested and returned low yields. The annual grain hay crops returned high yields as crops of oats, barley and peas in various combinations were particularly favorable.

A noticeable improvement in method of tillage for preparing summer fallow is seen in all sections of the Basin. The season has been favorable for the germination and fighting of weeds.

The pasture experiment continues to demonstrate the high carrying capacity of sweet clover in comparison with brome and crested wheat grass. The grass blocks will be completely grazed down by August 15th while the pasturing of sweet clover will be continued.

JUDITH BASIN, continued:

Some of the trees in the thickly planted blocks are beginning to show the effect of hot weather. Similar conditions are developing in the Caragana hedges.

Visitors during the week included K. S. Quisenberry, Miss Marion A. Griffith and Dr. Humphreys, of the Office of Cereal Crops and Diseases, Mr. H. E. Murdock and Mr. S. S. Sutherland, of Montana State College, and Smith-Hughes Instructors, Axtell, Buchanan and Zurnstein.
Maximum temperature, 96, minimum 47, precipitation 0.

HUNTLEY:

Maximum temperatures have been above 90 every day of the past week and although showers occurred on the 4th and 5th of the month the moisture received was not sufficient to carry crops over the warm period without burning. All crops, with the exception of sorgo and Sudan grass, appear to be greatly in need of water, and unless rains come soon it is doubtful that beans will make a crop worth harvesting. There is a marked difference in the appearance of corn on spring plowing as compared to corn on fall plowing. The crop on the former method is short, dry and has few ears, whereas corn on fall plowing is tall, comparatively green, and has about the normal set of ears.

Field work has consisted of taking the harvest set of soil samples, tagging plots for threshing, and hand threshing a small amount of the various winter wheat varieties for pure seed.
Maximum temperature 99, minimum 46, precipitation .30 inch.

MANDAN:

Agronomy

Weather conditions for the most part have been favorable to harvesting of rapidly ripening grain crops. A maximum temperature of 95 the middle of the week caused considerable discomfort, but did not hold up work materially.

Most of the grain plats in the rotations have been harvested. Two binders on a block of oats in Field P will nearly wind up the grain harvest for the season. Some difficulty was encountered in harvesting grain on fallow plats, owing to lodging and Russian thistles.

MANDAN, continued:

Wheat on plowless fallow was so badly infested with this weed that it could not be harvested with a binder.

Some oats rust was encountered in plats badly lodged. Wheat rust is negligible.

Corn is making splendid development of ears, but is not as tall as in some seasons. An abundance of soil moisture seems certain to assure one of our highest yielding crops.

Response to manure in Rotations 68, 69, 70 and 246, is especially noticeable this year.

Maximum temperature 95, minimum 57, precipitation .60 inch.

Horticulture.

Budding in the nursery is now in progress. About 2,000 plums are being budded for distribution purposes.

Opata plums are now ripe and the bushes are loaded with fruit. Pembina and Oziya plums are almost ready to pick.

Celery has been hilled. Bills Early Market and Sunshine sweetcorn are now gone; while Golden Bantam is at its best. Considerable work is being done in the corn breeding project.

Visitors of the week included E. G. Booth, Field Agent in Agronomy, North Dakota Agricultural College, Stewart Lockwood, Bureau of Entomology, H. A. Gunning, Foreign Plant Introduction, C. H. Flath, Supt., Hettinger Sub-Station, North Dakota, and County Agents Carl T. Carson, Kidder county, J. C. Russell, Golden Valley county, Ray W. Harding, Adams county, all of North Dakota.

BELLE FOURCHE:

Clear hot weather has prevailed throughout the week, and only a negligible amount of precipitation was received. The hottest weather of the season occurred June 8 and 9 when maximum temperatures of 98 and 99, respectively, were recorded.

The remainder of the small grain has ripened very rapidly, and harvesting of grain on the dry land rotation field has been completed. Most of the available moisture in the soil of the corn plots has been exhausted, and the ground is cracking badly.

BELLE FOURCHE; continued:

Corn is beginning to show signs of suffering from lack of moisture, and potatoes are wilting.

Grasshoppers have become very numerous and are doing extensive damage in some localities. Considerable poison bait was distributed on the dry land rotation plots to prevent injury to row crops and shocked grain.

Visitors during the week were Messrs. Dan Hansen and A. E. Seamans of the Huntley Field Station, E. G. Noble of the Yuma Field Station, and Stewart Lockwood of the Bureau of Entomology.

Maximum temperature 98, minimum 53, precipitation .17 inch.

ARDMORE:

The weather during the week was hot and dry. During the last five days the maximum ranged from 92 to 100. A moderately high wind with a temperature of 98 is blowing today.

All crops not harvested are showing the effect of the continued hot weather. Some of the corn is firing badly, and the condition of all of the corn, except that on fallow, is becoming critical. Sorgo not on fallowed land is beginning to suffer from drought. The wheat in the delayed seeding series has fired badly.

Threshing was completed today except for a few plats on spring plowing, the delayed seeding wheat plats, and the flax. Variations in yield due to different cultural methods were extreme. Oats varied from 10.8 bushels per acre on alfalfa sod to 92.2 bushels per acre on fallowed land, winter wheat from 4.4 bushels per acre on continuously cropped land to 40.5 bushels per acre on fallowed land, spring wheat from 9.5 bushels per acre on continuously cropped land to 50.5 bushels per acre on green manured land, and barley from 18.1 bushels per acre on continuously cropped land to 59.0 bushels per acre on summer fallowed land. The yields of the grains' varieties have not been computed as yet.

Mr. Gerald Heebink, Extension Dairy Specialist for South Dakota, and Mr. Astroth of the American Jersey Cattle Association, were station visitors during the week. Mr. Emerson stopped at the station on Thursday while inspecting shelterbelts in this vicinity.

The pigs on limited ration were weighed on August 9. Their gain during the past two weeks was low, due no doubt in part to the exceedingly hot weather.

Maximum temperature for the week 100, minimum 48, precipitation .19 inch.

ARCHER:

The weather has continued dry with only .01 of an inch of precipitation. The wind velocity has been low and temperatures rather high. These conditions caused the winter wheat and early seeded barleys and oats to ripen rapidly.

All winter wheat and barley on the Dry-Land plats have been harvested. Barley in the dairy field, increase Kherson oats in the experimental field, and the varieties of winter wheat are in the process of being harvested. Preparations for threshing are under way.

Other crops are badly in need of rain. Corn is tasseling slowly and during the day rolls badly. Millet is also rolling and other drilled crops are firing, Potatoes and beans present a better appearance but the soil is very dry. Sudan grass continues to look bright and green. The sunflower leaves are drooping.

Director W. L. Quayle visited the station August 9 and 10.
Maximum temperature 87, minimum 48, precipitation .01 inch.

AKRON:

The dry weather continued through the week. Corn and the sorghums continue to hold well though the burning of the millets and the beans has become more pronounced. Box Elder in a hedge planting is beginning to shed its leaves as though autumn had approached. Hackberry and Elm trees in the forestry plantings are showing curled leaves during the hot portion of the day.

Threshing was continued and progress was made towards the completion of this job. The yields from the two sheep rotation winter wheat fields were very low and in line with the prospects at harvest time. The yield from the pastured fallow was 9.8 bushels per acre and from the pastured rye 7.4 bushels per acre.

The barley yield from sheep Rotation 28 was 35.9 bushels per acre and from sheep Rotation 51, 33.4 bushels per acre.

The 23 oat plats of the uniform cropping series averaged a little more than 60 bushels per acre. The low yield on this series was 49.7 bushels per acre and the high yield was 74.7 bushels per acre.

AKRON, continued:

The high yield from the rotation barley plats was 67.5 bushels per acre. This was on the fallow plat of the M. C. Series. The low yield was 15.2 bushels per acre on the subsoiled plat of the M. C. Series.

The high yield among the rotation oat plats was 65.9 bushels per acre on the fallow plat of the M. C. Series. The low yield was 6.6 bushels per acre on Rotation 1.

Corn is in full silk and in the case of the earlier plantings the silks are drying. While the corn does not appear to be suffering from the dry weather still a rain would undoubtedly be of great benefit.

Coes Sorgo seeded May 23 is almost in full head; that seeded June 8 is breaking into head.

Some 25 or 30 county agents and agricultural college officials from Colorado made a tour of the station projects Monday afternoon.

Mr. M. W. Talbot, Weed Specialist for the Department, spent Wednesday at the station.

On a tour of parts of Lincoln and Arapahoe Counties crop conditions were noted as excellent.

Maximum temperature 93, minimum 47, precipitation 0.

HAYS:

The past week has been one of the driest for some time. This condition offered an opportunity to do considerable tillage work much of which is badly needed every where in the wheat section. Because of heavy rainfall during June and July harvest was greatly delayed and this in turn has delayed tillage work for the next crop. It is reported that one-third to one-half the wheat is still unharvested in western Rush County and in Ness County. Among the wheat growers, only those few who make it a practice of following the header or combine with tillage machinery have much tillage work done. Most fields that were harvested early or in good time but were not worked immediately are still unworked and are covered with a heavy growth of grass or weed, and insome places already after a week of dry weather the ground is getting pretty hard for plowing. With nine inches of rain in June and nearly seven in July a large amount of moisture could have been stored by early tillage. It now looks like it may be "hard luck year" for any farmers who did not take advantage of any opportunity they have had for early tillage work, for enough moisture has already been wasted through weed growth on thousands of acres of land in this section to have assured a good seedbed and an excellent chance for a good crop next year.

HAYS, continued:

Feed crops of all kinds are looking fine. Corn is six feet high, in roasting ear stage and looks much the same on all plats. Kafir is from four to five feet high and beginning to head. All plats doing fine. Milo is about four feet high except on listed plats, and has been very promising for good yields until recently since when the chinch bugs have been causing considerable damage. The listed plats are already badly damaged and it now looks as if the milo on these plats will all be killed.

Tillage work for wheat is progressing fairly well on the project although most of it is later than usual, because of the wet weather. During the time when the soil has been dry enough for work we have found it possible to use the caterpillar tractor to very good advantage. But for the fact it could not be conveniently removed from the combine, it would have been used more for tillage work during the combining period when it was too damp for combining.

Regarding yields of small grain crops on the project this year it may be of interest to present below a few yields.

	Number plats.	Highest yield.	Lowest yield.	Average all plats.	
Barley	18	52.1 bu.	10.8	36.4 bu.	(2 plats below 25 bu.)
Oats	19	89.1	22.5	49.1	(2 " " 35 ")
S.Wheat	13	35.5	13.3	20.2	(4 " " 15 ")
W.Wheat	246	54.2	7.2	41.2	(10 " " 25 ")

Total bushels grain threshed from plats;

Oats 93.4, barley 65.5, s.wheat 26.3, w.wheat 1012.5 not including several bushels threshed from borders. (Above figures subject to corrections.

COLBY:

The weather the past week has been rather drier than that for the previous few weeks. The fore part of the week was still and damp but that for the latter part of the week was rather windy and dry. There had been a scarcity of drying weather until the latter part of the week.

Thrashing was well started on the station during the week. A start was made on some of the better wheat. A small field was thrashed that is seeded to a rate and drill comparison test. The averages for the drills and rates are given here.

Rate of Seeding to the acre.	Yield in Bu. an acre. Press Drill.	Furrow Drill.	Average.
4 pks.	52.8	52.7	52.8
3 "	51.6	54.7	53.2
2 "	52.3	56.2	54.3
1 pk.	52.8	55.9	54.4

COLBY, continued:

The wheat in the foregoing test was Kanred and tested 58 to 60 lbs. at the machine. The highest yield of winter wheat, which was in the foregoing test, that has been thrashed on the Colby Station to date is 64.0 bu. to the acre.

Thrashing will be continued during the coming week if the weather permits.

GARDEN CITY:

The past week has been rather hot and still. While temperatures did not go above 100 it was so still that the weather felt oppressive. Growing conditions could not have been better. All row crops have made an unusual vegetative growth under the favorable moisture conditions that have existed since planting time. Corn, especially, has grown very tall.

The early planted sorghums have headed and corn is now tasseling. The sorghum plants are so heavily leafed that the ground is practically hidden between the rows.

Field work consisted of listing and plowing for wheat this fall, cutting the first three dates of planting Sudan and hoeing roadways and alleys.

Maximum temperature 93, minimum 61, precipitation 0.

DALHART:

This has been another wet week. Last Saturday evening it rained .51 inch. By the time the soil began to dry off from this rain, another was recorded in the amount of 1.12 inches. The last one came with a heavy wind for the first spell, but finally settled down to a slow easy rain lasting nearly all night. Some hail accompanied the first of the rain but very little damage was done.

Nothing could be done in the fields this week except some rogueing. There is plenty of cultivating to be done just as soon as the soil dries sufficiently. During the week considerable work was done among the trees, along roadways, and among the ornamental plantings. Some roadways were mowed during the week.

The crops are all making splendid headway. Several plots of Sudan are ready for harvest, and one plot of Sudan and cowpeas are ready to turn under for green manure. This plowing can not be done until after a few more days of sunshine. The varieties are heading making a good showing. Everything is shorter than the average. A few varieties of grapes are beginning to turn.

DALHART, continued:

Maximum temperature 92, minimum 56, precipitation 1.12 inches, in addition to the .51 inch which was recorded from the rain late last Saturday. Considerable wind damage occurred with the heavy rain, near Dalhart. Some buildings and windmill towers were blown over and destroyed. This damage occurred about 6 miles east of the station, and covered a good area of ground.

BIG SPRING:

Rainy weather has prevailed again this week so that only about half the time could be devoted to field work. Two rains, one on the night of August 8, and another on the following night, totaling .51 inch, have thoroughly soaked the ground again. This is the first time in many years, that the farmers have complained of too much rain at this time of the year; it is thought that this damp cloudy weather will cause a heavy infestation of cotton leaf worms. In order that they might be prepared for this pest, the farmers have already purchased a car load of calcium arsinate.

Cotton varieties and spacing plots were cultivated this week; Early Buff, Blackeye and Catjang cowpea varieties were harvested, and several varieties of peaches and grapes were picked. Other work consisted of cleaning up the yard, hoeing inthe vineyard, and getting the scattered weeds out of the rotations.

Maximum temperature 94, minimum 64, precipitation .62 inch.

LAWTON:

Weather that was favorable to the growth and development of row crops continued throughout the past two weeks. Following several days of cool, cloudy weather the heat has been intense and sultry. The wind movement both day and night is almost negligible.

Alfalfa on the increase fields yielded only about 3 tons at the second cutting but the quality of hay was very good.

Brush on the broom corn plots was pulled and seeded August 10. The yield was above the average and the quality of brush was quite satisfactory.

Corn is drying up rapidly and will necessarily have to be harvested with in a few days. The grain is pretty well matured, and a fair crop obtains.

Growth of sorghum and cotton continues very satisfactory. Chinch bugs are very plentiful and the late planted sorghums will be severely damaged unless the weather remains unusually favorable

LAWTON, continued:

Precipitation for July amounted to 2.28 inches leaving deficiency of .86 inch.

Station visitors during the last two weeks include Messers. L. F. Locke, E. F. Chilcott, John B. Sieglinger of Woodward, Oklahoma; Mr. Frank Cross from Stillwater, Oklahoma, and Mr. L. W. Kephart of Washington, D. C.

A group of "Master Farmers" of Oklahoma held a three day picnic vacation at one of the nearby resorts and included the Lawton Station on one of their sight seeing trips August 10. There were about 90 people in the group.

WOODWARD:

Work of the past week has consisted in cutting alfalfa hay, cultivating, hoeing, and shooting sparrows.

Sorghums started out with a very vigorous growth, stooling heavily because of excessive moisture in May and June. Rainfall for July and August has been low and they are beginning to need rain very urgently.

We have been greatly troubled with English sparrows, but read Biological Survey report last year to effect that if males were killed females would leave. We purchased a Crosman air rifle from Crosman Arms Company, Rochester, New York. This is a remarkable hard and accurate shooting rifle. While main effort was made to kill male sparrows females were also killed. In a few weeks there were few sparrows. Shooting was started late this year, but sparrows seem to be thinning out remarkably.

Maximum temperature 98, minimum 61, precipitation 0.

Average hourly wind velocity 5.2 miles; evaporation 2.182 inches.

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

AUG 18 1928

REPORT FOR WEEK ENDING AUGUST 18, 1928.

HAVRE:

The past week was cooler than the previous one. Rain was recorded on the 14th amounting to .47 inch. Grains that are ripe now are maturing a little slow and are not drying out rapidly. Practically all harvesting on the station with the exception of the later dates of seeding and flax is completed. A great deal of grain is ready to thresh and threshing will start during the coming week.

Corn is progressing fairly well and is mostly in the roasting ear stage. There has been no drought period severe enough to cause corn to wilt, and if the weather continues warm enough yields should be very good.

Combining of grain has started in this section and elevator reports of protein for wheat show a variation of from 10.5 to 15.5 percent.

Mr. Louis Vinke, of the Animal Husbandry Department of the Montana Experiment Station, was a visitor during the week.

Maximum temperature 92; minimum 39; precipitation .47 inch.

JUDITH BASIN:

The entire week has been favorable for the ripening of grains with cool nights and warm days. All crops have advanced toward maturity rapidly.

Practically all the winter wheat on the station has been harvested. Combines are busy harvesting fields in the Basin, although some fields are hardly worth harvesting. The protein content is averaging around 15 per cent on these early fields but test weight per bushel is low.

Oats on the rotations have been harvested and only the late fields remain standing. Growth was uneven in height due to uneven germination. Barley conditions are similar to oats with good yields in prospect.

Potatoes are making normal growth and corn is doing exceptionally well.

All the pasture blocks with the exception of sweet clover and the alfalfa hog pasture block have been discontinued for the season, due to the dry weather. Sweet clover is holding up remarkably well.

Visitors during the week included, Messers. Ed. Noble, Superintendent of the Baird, California, station, J. C. Taylor, Montana Extension Service, E. B. Duncan, Agricultural Agent for the Great Northern Railroad, and E. J. George from Mandan, who carefully inspected the shelter belt and orchard work.

Maximum temperature 89; minimum 41; precipitation 0.

HUNTLEY:

The hot weather of the previous week continued during the first three days of the present week, but cooler weather has prevailed since then. Hot winds have scorched corn and beans to some extent and these crops appear to be maturing rapidly where the soil moisture has been reduced to near the wilting point. Sudan grass, sorgos and grass crops show little change in the past week and unless rain comes soon, yields will be considerably below the average.

Hogs on the soybean-Sudan grass pasture have cleaned up the soy beans and have consumed a quantity of the Sudan grass. Practically no pasturing has been done in the daytime during the hot weather, the animals leaving their shelter only to drink. Most of the grazing has been accomplished late in the evening and in the early morning while it is still cool.

Maximum temperature 99; minimum 44; precipitation .03 inch.

SHERIDAN:

The extreme warm weather continued through the 12th, with a temperature of 102 on that date. The weather since has been seasonably warm, with the exception of one day, when a maximum temperature of 72 was recorded. Several plots of corn began to fire early in the week, and all standing crops on the station are now firing considerably with the exception of sorgo and Sudan grass in rows and the corn on alternate fallow and listing in the MC series. Listed corn outside of the one plot mentioned is firing as badly as that given level culture. Soil samples taken early in the week showed an apparent plentiful supply of moisture in the corn in the MC series.

The late seedings of oats and barley were harvested yesterday, the 17th. The May 25 seeding of spring wheat on corn ground, and the May 16 seeding of durum wheat on fallow still remain to be harvested. Flax in the rotations will be ready to harvest the first of next week. Millet for forage was cut and hauled during the week.

Maximum temperature 102; minimum 47; precipitation Trace.

MANDAN:

Agronomy

Weather favorable to harvest and threshing continued throughout the week. According to reports sifting in from neighbourhood sources, harvest is practically finished.

Harvest of Dry Land plots and blocks at the station was finished early in the week. Much difficulty was encountered in wheat on fallow, on account of Russian thistles. In some cases it was impossible to cut a swath wider than two feet.

Fallow plots received their third cultivation with the duckfoot cultivator.

Soil moisture samplings were made in wheat and corn. No evidence of exhaustion of the soil moisture supply was observable in any method of tillage.

MANDAN, continued:

It is planned to commence threshing plots early this coming week if weather conditions continue favorable.

Reports on combining of wheat have been received. In some cases the crop was cut with a header and left several days in windrows, and then combined from the windrow.

Maximum temperature 90; minimum 47; precipitation 0.

Cooperative Grazing Experiment.

The native vegetation is holding its own very well for this time of the year.

The steers in the Rotation pasture were moved to another section on the 14th.

Clipping quadrats was continued most of the week.

Soil samples were taken in the 30-acre isolation transect, in the 30-acre grazed quadrat area and in the 100-acre grazed quadrat area. More moisture was observed in the samples from the isolation transect than from the grazed quadrat areas. The explanation probably lies in the fact that the ungrazed cover in the isolation transect acts both as a check to run-off and blanket to check evaporation.

Arboriculture.

Mr. L. S. Matthew has received an appointment as Extension Forester, succeeding C. A. Gillette, who has transferred to New York State in similar work. He will report for his new job about September 1st.

Mr. J. L. Emerson is now in the vicinity of Pierre, South Dakota. and should arrive at the station by the end of the month.

Mr. E. J. George reports that oil has been struck west of Conrad, Montana, which has given the locality a "boom". Grasshoppers are stripping trees in a small area east of Great Falls, Montana.

Horticulture.

Most of the weeds have now been eradicated in the various experimental plots in the horticultural fields. Budding was finished Saturday.

MANDAN, continued:

Fruit picking has been started. The crop of Opata plums is harvested and a number of miscellaneous varieties, one to three trees of each have also been picked. The yield of early varieties of crabs and apples such as Duchess, Yellow Transparent and Dolgo crabs, has been secured. Considerable blight injury cut the yields considerably and impaired the quality of the fruit.

Vegetables continue to yield well. Those in season now are: Sweet corn, tomatoes, cucumbers, cauliflower, cabbage, carrots, and beets.

Bleaching of celery was started during the week. Selection work in the Breeding project of tomatoes is being carried on. There is considerable rotting of fruit, ripe and green, due to hail injury some time past.

Mr. Stewart Lockwood, Bureau of Entomoloty and Prof. H. W. Cave, Dairy Industry, Kansas Agricultural College, were visitors.

BELLEFOURCHE:

The hottest weather of the season occurred during the first half of the week when a maximum temperature of 101 was recorded. The last few days, however, have been considerably cooler, and a couple of light showers were received.

The hot, dry weather has caused all row crops to suffer from lack of moisture, and the yields of corn and sorgo will be materially reduced unless a good rain is received within the next few days.

Field work has been devoted chiefly to threshing of oats and several plots of spring wheat. The yields of oats ranged from 35.9 bushels to 93.4 bushels per acre, and only 2 plots produced less than 47.0 bushels to the acre. The few plots of spring wheat which have been threshed indicate that the average yield of spring wheat will be between 30 and 40 bushels per acre.

Visitors during the week were Mr. J. T. Sarvis, of the Northern Great Plains Field Station, Mr. O. R. Mathews, of the Ardmore Field Station, and Mr. Stewart Lockwood, of the Bureau of Entomology.

Maximum temperature 101; minimum 54; precipitation .12 inch.

ARDMORE:

The weather during the week was hot and dry. Hot winds blew on three days and did considerable damage to all growing crops, except those grown on fallowed land.

The harvesting of small grain was finished on the 17th. All millet varieties were harvested the 18th. The Gold Mine and Tennessee German varieties were not headed, but were injured beyond recovery by drought.

Corn began to dent and those fields set aside for silage purposes will probably be ready for harvest the first part of the coming week.

Fall plowing was started on the 13th. Approximately 25 acres were plowed during the week.

The pigs on self-feeder test were weighed on the 16th. The average weight of the pigs and the average gains made during the 14-day period are as follows:

	Average Weight Per Head	Gain For 14-Day Period
Corn, tankage, oil meal on dry lot	165.8	26.7
Corn, tankage on dry lot	161.5	23.9
Corn, tankage, oil meal on alfalfa pasture	164.7	24.0
Corn, tankage on alfalfa pasture	163.1	25.8

Mr. J. T. Sarvis, of the Mandan Station, and Mr. R. R. Graves, of the Dairy Bureau, visited the station during the week.
Maximum temperature 102; minimum 50; precipitation 0.

ARCHER:

Showers amounting to 0.48 of an inch of precipitation occurred during the week. Forty hundredths of an inch occurred the evening of August 14. The remainder was scattered in three light showers. Notwithstanding the very dry condition of the soil the shower of August 14 did considerable good for a couple of days. Today the temperature is high with low humidity. This has caused the corn to roll badly. Spring wheat and oats on the Dry-Land plots have ripened rapidly. Some of the varieties of barley are being harvested today. Corn, sunflowers, potatoes and beans are seriously in need of a generous rain.

ARCHER, continued:

Work at the station has consisted of harvesting the remainder of the winter wheat and threshing all but that on the varietal experiments. All fallow plats were duckfooted the early part of the week. A small field of barley was threshed and the land prepared for the first date of seeding winter wheat, August 15.

Maximum temperature 90; minimum 50; precipitation .48 inch.

AKRON:

Only a very light shower was received this week to relieve the drought which is becoming quite severe. Early planted beans are drying up. Corn is burning in spots and will not fill ears unless consequential rains come soon. Early seeded millet on small grain stubble is only about one-third headed and will progress no further until rains are received. The sorghums are progressing favorably and the earlier varieties are breaking into head.

The threshing of the heavy small grain crop was continued. The projects threshed this week were the rate and spacing corn land winter wheat, the rotation spring and winter wheat plots, the oat variety experiment andtwo areas of increase grain.

The rate and spacing corn land wheat averaged about 25 bushels to the acre. Yields from the different plots were quite in keeping with the soil preparation and the previous crop.

The rotation winter wheat plots did not yield as well as was anticipated. The fallow plots yielded from 25 to 35 bushels per acre, with other methods and preparations ranging downward.

The rotation spring wheat plots averaged about 12 bushels per acre with a fair response to fallow preparation above this figure.

The high yielding oat varieties on fallow were Burt 916, 65.5 bushels per acre, Kanota, 63.9 bushels per acre, and Burt X 60-Day, 63.1 bushels per acre. The high yielding oat varieties on cornland were Richland, 48.9 bushels per acre, Burt 916, 46.9 bushels per acre, and Burt X 60-Day, 46.5 bushels per acre. The high yielding oat varieties on both fallow and corn land were Burt 916, 56.2 bushels per acre, Burt X 60-Day, 54.8 bushels per acre, and Kanota, 54.5 bushels per acre.

The hay crops of the general forage variety experiment were hauled in and weighed.

Coes sorgo seeded June 8th is in full head by this week end. Many of the sorghum strains in the nursery are also in head and many promising heads have already been bagged.

AKRON, continued:

Longfield apple, which set a heavy crop of fruit, has dropped 90 per cent recently. Most of the fallen fruit is wormy and it is thought this, together with the dry weather, has caused the fall.

Dr. L. A. Kenoyer, Botanist at the Western State Teachers College at Kalamazoo, Michigan, together with some 23 botany students, spent Sunday forenoon looking over the experiments and the vegetation of the station.
Maximum temperature 94; minimum 55; precipitation .19 inch.

NORTH PLATTE:

Report for two weeks ending August 18, 1928.

August weather to date has been dry, clear and warm. No rainfall has been recorded. Medium to strong winds have been persistent. These conditions have been favorable for finishing the delayed harvest and for threshing.

Plot threshing on the station was begun on the station on August 6 and completed on the 16th. Yields ran surprisingly high. Below is a tabulation of the maximum, minimum and average yields of the five small grains grown on the rotation fields.

	No. Plats	Max.	Min.	Ave.
W. Wheat	74	66.1	18.5	35.5
Oats	57	98.4	23.4	56.1
Barley	17	60.4	25.6	39.5
Rye	5	44.1	11.8	23.3
S. Wheat	23	35.0	16.6	24.2

There was an unusual spread between yields after summer tillage and those on land cropped continuously. The margin in favor of early plowing was on the other hand considerably smaller than usual.

Stubble fields, especially where weeds are present, are plowing up cloddy. Corn continues to grow well. The soil is dry and cracking open at the surface, but the plants appear as yet to be well supplied with moisture from the lower levels.

Visitors during the week include, Messrs. F. D. Richey, of the Office of Cereal Crops and Diseases, and H. L. Westover, of the Office of Forage Crops.

COLBY:

Weather remained favorable for threshing during the week and good headway was made with the experimental threshing. All of the D.L.A. plots have been threshed and all varieties except barley. The D.L.A. winter wheat yields ranged from 11.8 bu. to the acre on early fall plowing after barley to 41.3 bu. to the acre on Rotation 555, which receives three tons of manure as a top-dressing. The method of fallow series with winter wheat gave some striking results. The yields on the five plots were: H-30.5 bu. an acre, J- 33.2 bu. an acre, L- 34.7 bu. an acre, N- 20.7 bu. an acre, and P- 41.2 bu. an acre. The MCA plot, as usual, outyielded the MCB plot, the yields being 19.8 bu. an acre and 18.3 bu. an acre.

The yields and quality of barley were better than usual. The barley yields varied from 36.5 bu. an acre on MCA to 52.7 bu. an acre on MCC. The yields of spring wheat were fair but the quality was very poor. The yields of spring wheat varied from 5.3 bu. an acre on Rotation 5, to 14.5 bu. an acre on Rotation 9. The yields of oats were also better than normal. The oat yields varied from 13.1 bu. an acre on Rotation 9, to 55.9 bu. an acre on MCC.

The winter wheat variety test showed Tenmarq, a new Kansas Station wheat, to be the leading variety of wheat in 1928. The yields of the principal varieties in the winter wheat variety test were as given below.

Tenmarq----------	50.5	Bu.	an	acre.
Marquis-Kanred cross-	49.7	"	"	"
Kanred----------	48.8	"	"	"
Kharkof----------	48.6	"	"	"
Blackhull----------	46.7	"	"	"
Turkey----------	46.6	"	"	"
Blackhull Superhard--	42.1	"	"	"

The drying weather of the past week has dried up the pastures but the corn on the station shows no drying that would injure the crop as yet. Dwarf yellow milo is just heading on fallow.

Mr. A. L. Hallsted, of the Hays Station, visited on the 16th.

HAYS:

For most part the week has been quite favorable for field work of all kinds. Farmers generally are taking advantage of that opportunity, the most successful of them are now running their tractor machinery day and night on any fields they may have that have not been worked since harvest.

HAYS, continued:

Although we consider plowing and listing "early methods" there is a great deal of this kind of work still being done, where the chances are that since it is so late, thorough disking or "one-way disking" would give better results. There is a great deal of work being done with the one-way disk.

A trip during the week through Western Kansas and Eastern Colorado touching the experiment stations at Colby, Cheyenne Wells, (Colorado), Tribune and Garden City revealed the fact that throughout the country in this section tillage work is generally late, and very little early work has been done. In fact there are many more fields covered with grass and weeds than fields that have been worked since harvest. Of course there is one good reason for it and that is that it has been an unusually wet season which delayed harvest so much there are still a few fields of uncut wheat and many fields upon which the shocked grain is still standing unthreshed, and but very little stack threshing has been done. The pity of it is that before the grass and weeds can now be destroyed a large part of the summer rains will have been used up, and in spite of the fact that there was an abundance of rain during the months of June, July and August the prospects on many farms for a crop next year is discouraging. A recent trip through a part of Eastern Kansas and Southeastern Kansas revealed similar conditions in that section of the state.

Work on the project during the week has consisted largely of surface tillage, road work, soil moisture work and roguing of sorghum crops.

On the commercial fields the work consists of tillage work for wheat and harvesting of the second crop of alfalfa. This crop has been ready for some time but on account of wet weather could not be cured.

Maximum temperature 98; minimum 58; precipitation .30 inch.

GARDEN CITY:

Growing conditions have been nearly ideal during the past week. Kafir and milo in rotations and on the seedbed test are just beginning to head. No crop is showing need of moisture at this time. Drilled sorghums are usually badly fired at this time of the year, but even the thickest stands are making a good growth this season.

Field work this week consisted of cultivating fallows and some of the lister planted sorghums and corn. It has been necessary to cultivate some fallows six times since spring weed growth started.

Mr. A. L. Hallsted, of the Hays Station, and Mr. Newman, of Turkey, were station visitors yesterday.

Maximum temperature 94; minimum 64; precipitation .05 inch.

DALHART:

Good growing conditions have prevailed over the past week. Fields dried off sufficiently for plowing, etc., so they could be worked. The days were warm to hot, with a moderate amount of wind. Clouds began gathering toward the west and northwest, about midweek, resulting in good rains at the close.

All fallows were cultivated this week, killing the heavy growth of small weeds which have been growing since the late rains began. The blue weed patch was plowed this week to kill the growth which was emerging from the plowing in early July. The mower was run on roadways in the north and south fields, cleaning them of the heavy growth of grass and grassburs. Bagging of heads in several of the varieties was resumed this week. Milo is being bagged to the greatest extent, since this crop is increased for seed more than any other variety. Sudan grass on the rotations was harvested the first of the week. All small grains were threshed, this being the first time for a month that this work could be done, on account of rains. This work lasted two days and was finished a few hours before rains started again.

The first variety of grapes matured and was picked this week. This was the Manito, and the three vines yielded 25.2 lbs., 23.1 lbs., and 17.6 lbs., respectively, making an average for the variety of 21.975 lbs.
Maximum temperature 91; minimum 62; precipitation 1.54 inches.

TUCUMCARI:

Needed rains of the past week have greatly improved the crop prospects and while vegetative growth of all row crops is somewhat short, indications point to at least an average grain yield. The majority of kafir plots are in full head, while much of the milo is in dough stage. Bird attack has been about normally severe, but heavy injury has not occurred on most plots, as the result of early morning and late evening shooting. A few early cooperative grain sorghum plots were injured seriously.

Work the past week has included pulling early broomcorn, picking and harvesting early varieties of cowpeas, cutting a few Sudan plots, considerable cultivating, and hoeing of large weeds.

Rains of 1.85 inches this month have brought the total for the year to 10.51 inches, only 1.40 inches below the 22-year average, although the deficiency since Oct. 1, 1927 is approximately 4.00 inches. Trees, lawns, and shrubs are responding to this recent moisture, while crops all appear vigorous. Grapes have been maturing the past three weeks and yields are good on most varieties.
Maximum temperature 94; minimum 59; precipitation 1.05 inches.

BIG SPRING:

Weather conditions have been very favorable for plant growth and all field operations during the past week. All feed stuff and cotton is making a rapid growth. Kafir is in full head, while milo is heading. Cotton is making a good plant growth, but is not fruiting as well as it should.

Twenty plots of cowpeas in the rotations were harvested during the week. These plots all made a good vine growth, and should produce yields above the average. May 1 and 15 dates of seeding of Sudan grass were harvested. The grass on both plots was 35 inches high. Other work consisted of cultivating cotton varieties, dates, spacing, and that in the rotations. The orchard was disced and hoed and the roadways cleaned.
Maximum temperature 94; minimum 65; precipitation 0.

LAWTON:

The weather has continued hot, sultry, and oppressive with but very little wind movement. Cotton wilts in the day time and shows the need of rain. Abortion of squares and small bolls has been heavy for more than two weeks. Some of this loss is due to boll worm damage and a very slight per cent to boll weevil, but the largest part is due to weather conditions.

Maturity of grain sorghums has advanced with marked rapidity the past week and the foliage is severely burned in many instances. Several plots of rotation kafir are drying up and will have to be harvested within a few days.

The following grain and forage sorghums were headed during the week:

Wonder Kafir	planted	April 15 and May 1.
Kaferita	"	April 15
Hybd. Dwf. Feterita	"	April 15
Spur Feterita	"	April 15
Commom Feterita	"	April 15
Dwarf Hegari	"	April 15
Premo	"	April 15
Red Amber	"	May 1
Black Amber	"	May 1
Freed Sorgo	"	May 1

Corn on the M.C.plots was harvested August 15.

LAWTON, continued:

A terracing demonstration was held on the station in connection with the County Agent and Mr. G. E. Martin, Extension Engineer from Stillwater, August 14. Sixty-seven farmers registered for lunch, which was furnished by the Chamber of Commerce and served by the Home Demonstration Agent with the assistance of a few Four H. Club girls. A sharp and appreciative interest was shown in the work and much of it is being done throughout the county.

Maximum temperature 100.

WOODWARD:

The weather during past week has continued to be dry and fairly hot, excepting the last two days which have been cloudy and threatening, but with no rain occurring as yet. Row crops over the country are curling badly during the daytime and sorghum heads are not developing normally. The dry weather has delayed farmers in preparing their fields for the next wheat crop.

Work at the Station during the week consisted of cultivating sorghums on the Cereal project, rogueing plots, shooting sparrows, grading and repairing washouts in plot roads, harvesting experimental cowpeas, spraying artichokes and young fruit and nut trees for caterpillars, picking grapes, and other miscellaneous work.

September 8 is the date set for our Annual Field Day this year.

Maximum temperature 99; minimum 67; precipitation 0.

Average hourly wind velocity 6.4 miles; evaporation 2.417 inches.

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

AUG 25 1928

REPORT FOR WEEK ENDING AUGUST 25, 1928.

HAVRE:

Weather conditions were not entirely favorable for threshing which was in progress throughout the week. Light showers on four different days totaling .39 inch, combined with cloudy, cool, weather made threshing out of the question on three and one-half days. A light frost was reported on the morning of the 23rd but was not heavy enough to damage crops.

A commercial field of Horn barley and dryland rotation plots of oats, barley, and winter wheat were threshed out however. Very good yields were obtained on summer fallow with disked corn ground and spring plowing ranking next in order. The following tabulation will give some idea of the relative yields of these methods for each of the three crops.

	Fallow	Disked Corn	Spring Plowing
Oats	85.9	59.3	40.3
Barley	60.6	41.2	29.8
Winter wheat	30.6	20.8	4.7*

*Fall plowing

Threshing of the spring wheat plots was interfered with by rain and the results are not complete. However, a fallow plot of spring wheat yielded 36.7 and several spring plowed plots ran around 20.0 bushels to the acre.

Test weights were quite good this year. The rotation oats averaged about 35 pounds to the bushel, the barley over 50 pounds, and the winter wheat more than 60 pounds.

Maximum temperature 87; minimum 34; precipitation .39 inch.

JUDITH BASIN:

Harvesting operations progressed favorably with the exception of Wednesday, when a cold drizzling rain stopped threshing. This storm sent the temperature down with a minimum of 32 degrees being recorded at Lewistown. No damage was reported.

Winter wheat seeded during September on the best rotation methods yielded 27 bushels per acre. This crop seeded August 20 returned less than .5 bushels, The best Sixty-day oats yielded 70 bushels. Barley yielded 55 to 60 bushels per acre. All of this grain is of exceptionally good quality.

Pure seed fields of the spring grain are returning high yields.

Corn and potatoes are developing normally. Choke cherries produced the only fruit of consequence this season.

Cows on pasture test have been moved to the sweet clover reserve. Pigs were weighed and showed better gains on sweet clover than from the alfalfa which has been retarded by the dry weather.

JUDITH BASIN, continued:

Visitors included Dr. Harlan and Miss Martini of the Cereal Office, Superintendent George Morgan, and E. L. Sandbergh of the North Montana Station.

Maximum temperature 86; minimum 35; precipitation .25 inch.

HUNTLEY:

The past week has been much cooler than the preceding one. Lower temperatures together with three fairly good showers have freshened up crops that were not too far gone with drought. These rains will fill beans and corn and be of considerable benefit to alfalfa and grasses which have been in danger of killing out for lack of moisture.

All small grains and flax on the Dry-Land project were threshed during the week. A wide variation in yields was found in all crops. In most cases the returns from fallow were very much greater than those from other methods of seed bed preparation. On the other hand, an occasional plot other than fallow gave an outstandingly high yield.

Maximum temperature 91; minimum 37; precipitation .62 inch.

SHERIDAN:

The past week was cooler than for some time, and there were two light showers. Corn continues to fire, but is ripening also, and apparently is in no worse condition than at the end of last week. Sorgo and Sudan grass appeared to recover considerably from the firing that occurred last week, but the sorgo will be short. The latest seedings of Ceres and Marquis spring wheat were harvested today, while the durum wheat seeded at the same time still remains green.

Threshing was begun the 22nd., the field peas being threshed that day. Yields have not yet been calculated, but were above the average. All Kharkof winter wheat, the variety used in the rotations, has been threshed, and threshing of the rotation oats is now in progress. Yields of winter wheat in the rotations ranged from 1.9 bushels to the acre where stubbled in, continuous cropping, to 45.1 bushels on fallow, the average yield of all plots in the rotation field being 29.1 bushels to the acre. Yields of the oats threshed so far are heavy, ranging from 29.7 bushels to the acre on MCF to 115.9 bushels on MCC.

Maximum temperature 91; minimum 38; precipitation .11 inch.

DICKINSON:

Cool weather continued through the week. Except for a short delay due to a light shower the whole week was favorable for field work. A light frost on the night of the 23rd did no damage on the station but in some low spots in the locality corn and other tender plants were killed.

Most of the week was spent in threshing. Oats and flax on the rotations, and wheat, field pea and grass varieties were completed.

Oats on the main field rotations averaged 65.8 bushels, the highest yield since 1922. For the 20-year period, 1908-1927, the average for these plots was 37.9 bushels. Yields ranged from 36.6 bushels where grown on disked oat stubble to a maximum of 101.3 bushels after green manure in rotation 14.

Wheat yields in the variety test were well above average. The highest yield was by Reliance Sel 16, which made 30.6 bushels per acre. Some of the other varieties yielded as follows: Supreme 27.0, Ceres 26.9, Hope 25.8, Marquis 24.2 and Marquis-Kota (1656.85) 21.1 bushel . Durum wheats all yielded below the best varieties of common wheats. Some of the durum yields were: Akrona 28.0, Kubanka 26.4, Nodak 26.1 and Mindun 23.5.

Field pea varieties, which were grown on fallow for the first time, gave the best yields ever harvested here. The Kaiser variety was highest at 46.7 bushels per acre. Other varieties were only a little below except Bangalia, an early variety, which yielded only about half as much.

Corn has developed slowly due to the cool weather. Early fields are now in fair shape for silage. The yield of silage will be above average.

Maximum temperature 89; minimum 32; precipitation .17 inch.

MANDAN:

Agronomy.

The past week has been favorable for all field work. The weather has been dry, and fairly cool the latter part of the week. The second cutting of alfalfa was made along the coulee.

Threshing of rotation plots has been started. The barley was completed and the oats will be completed today. A start will then be made with the wheat. The maximum yield of oats obtained is about 97.2 bushels per acre and the lowest about 16 bushels. The oats is of very good quality and will average about 36 pounds to the bushel.

MANDAN, continued:

A light frost on the night of the 22nd caused some damage to corn in low places. The leaves were completely killed. A few plots of corn in the south field were hit and part of a corn block in a coulee near the station. One nearby farmer reported all of his corn frosted.

Maximum temperature 86; minimum 37; precipitation .28 inch.

Cooperative Grazing Experiment.

Sweet clover is drying up and maturing rapidly. The brome pasture is still in good shape for grazing. All pastures are much greener than usual for this time of year. The grass has not cured to date.

Arboriculture.

The shelterbelt inspection work is nearly completed. Mr. Emerson and Mr. Matthew will finish about August 29, and Mr. George should be back by September 5.

Rain has been very beneficial to weed growth as well as to crops, and many of the plantings recently inspected are heavily grown up to weed. The farmers say they do not have time to keep them down by cultivation.

Horticulture.

Hoeing was finished in all fields during the week. Fruit picking is on and the horticultural force is kept busy taking yields of trees in the various experimental projects. There is a considerable amount of damaged fruit, due to hail injury and other causes, and the yield of sound fruit is light and much less than had been expected. Varieties ready now are: Compass and Sapa, sandcherry hybrids, Mammoth and a number of station selections of Prunus americana. Among the crabs, Florence, White Arctic, Dolgo, Alexis and Ameir are also ready.

A few new selections in the seedling orchards were made, some compass hybrids and a few apples and crabs.

Visitors of the week included - Messrs. E. G. Cheyney, Prof. of Forestry, and H. A. Rodenhiser, Plant Pathologist, Minnesota College of Agriculture. Prof. J. H. Shepperd, Animal Husbandry, North Dakota Agricultural College. A. C. Dillman, Seed Flax Investigations, O. R. Mathews, Superintendent, and Verner I. Clark, Scientific Aid, Ardmore, South Dakota, Field Station. E. G. Boerner, Grain Investigations, and R. H. Black, Grain Cleaning Investigations, Bureau of Agricultural Economics.

BELLEFOURCHE:

The past week has been comparatively cool, with unusually low temperatures during the nights for this time of the season. Aside from one light shower, no precipitation was received. The lack of moisture is hastening the maturing of potatoes and ripening of corn very noticeably.

Threshing of spring wheat, winter wheat, winter rye, barley, and flax was completed, The yields of all crops, except winter wheat and winter rye, were abnormally high. The yield of oats ranged from 35.9 bushels to 93.4 bushels per acre, barley yields varied from 35.6 bushels to 63.1 bushels, spring wheat from 20.3 bushels to 49.0 bushels, winter wheat from 11.3 bushels to 33.7 bushels, and winter rye from 17.1 bushels to 23.2 bushels.
Maximum temperature 94; minimum 44; precipitation .14 inch.

ARDMORE:

The weather was hot and dry during the fore part of the week but turned cooler and somewhat threatening during the last three days.

A shower of one-half inch fell on the 22nd reviving all row crops to a considerable extent.

The silage variety test plots, Field #1, and part of Field #14 were harvested and run into the silo during the week. The quality of silage was somewhat lower than usual owing to drought injury. The green weight yields per acre in the variety test varied from 5500 # for Fulton's yellow dent to 12040# for Minnesota No. 13. Field #1, measuring approximately six acres, produced a yield of 5170# green weight per acre.
Maximum temperature 96; minimum 44; precipitation .50 inch.

ARCHER:

The weather has continued dry. During the first part of the week high temperatures occurred and at times rather high winds. The last part has been somewhat cooler with some cloudiness. During the latter period the corn and sunflower crops have, to some extent, revived. Due to drought and rust the varieties of spring wheat are ripening. Rust is so bad that some of the straw is giving way and the heads droop to the ground at an acute angle.

Work at the station has consisted of harvesting the spring wheat and oats on the Dry-Land plots, also varieties of barleys and millets. Peas and millet on the Dry-Land plots have also been harvested. All plots and land have been prepared for the seeding of winter wheat and today the threshing of Smyrna barley from the dairy field is in progress.

ARCHER, continued:

Mr. J. T. Sarvis, of the Mandan Station, and Mr. F. A. Coffman, of the Cereal Office, were station visitors during the week.

Maximum temperature 92; minimum 41; precipitation .12 inch.

AKRON:

The week has been characterized by high winds, high maximum temperatures, and low minimum temperatures. The high winds interfered greatly with the completion of the small grain threshing. It was possible to thresh on only one-half of the first three days of the week because of the high and frequently shifting winds.

The threshing of the winter wheat variety experiment and the date of seeding spring grains experiment marked the completion of the 1928 threshing. Threshing has held undivided attention for the greater part of a month with no interference of consequence on the part of the weather. The dry weather, while not favorable for row crop prospects, has nevertheless been very favorable for the threshing of a heavy small grain crop.

The winter varieties yielded uniformly high on fallow with no great difference between the leading varieties, and yielded surprisingly high on corn land considering the early spring promise. The five high yielding varieties on fallow were: Kharkov, Hays No. 2, 52.1 bushels per acre, Kanred Sel 0166, 49.5 bushels per acre, Kharkov CI 1583, 49.0 bushels per acre, Nebraska No. 6, 48.9 bushels per acre, and Oro, 48.7 bushels per acre. The five high yielding varieties on corn land were: Nebraska No.6, 29.3 bushels per acre, Kharkov, Hays No.2, 28.7 bushels per acre, Kanred, Nebraska Long Beak Strain, 28.3 bushels per acre, Oro, 27.7 bushels per acre, and Superhard Blackhull, 26.5 bushels per acre. The five high yielding varieties on both fallow and corn land were: Kharkov, Hays No.2, 40.4 bushels per acre, Kanred Sel 0166, 39.8 bushels per acre, Nebraska No. 60, 39.1 bushels per acre, and Nebraska No. 6, 39.1 bushels per acre, Oro, 38.2 bushels per acre, and Kanred, Nebraska Long Beak Strain, 37.5 bushels per acre.

There has been no rain of consequence since July 28. Needless to say, it is dry. One of the most promising corn crops within the history of the region appears to have been blighted. The surprising thing on the station is the way all row crops appear to be withstanding the drought. The station corn plots were harrowed with single horse springtooth harrow immediately after the last rain to destroy germinating grains. This breaking of the crust seems to have been very effective in conserving moisture, and most corn plots promise to mature some sort of a grain crop.

AKRON, continued:

The early fall plowing and disking of the rotation plots was done last week end and the early part of this week.
Maximum temperature 100; minimum 37; precipitation Trace.

NORTH PLATTE:

Weather continues dry with wide temperature fluctuations. No rain has fallen at the Station for the month to date. Local showers with considerable hail occurred in several near-by localities during the week, but the station was passed by.

Temperatures ranged from 99 on the 19th, and 96 on the 22nd to 34 on the 23rd. There was light frost on the morning of the 23rd but vegetation was not damaged.

A few corn plants are beginning to fire. For the most part, these are on spring or late fall plowing. On early fall plowing, the plants are dark green.

COLBY:

Weather remained rather dry and windy during the week. Sunday, the 19th, was a very hot andwindy day. A strong wind from the SSW with a temperature of 101 degrees exhausted the moisture very rapidly. That was the worst day of the year but several other days during the week were almost as bad. A sudden change on Thursday night sent the thermometer to 38 degrees and a relief from the warmer weather is anticipated.

Corn on surface planting towards the latter part of this week shows considerable drying. The early fall plowed plots have, for the most part, shown either sooner or more drying than spring plowed plots. Milo is about 50 per cent headed and has not suffered any for lack of moisture. Listed corn, except for borders, has shown but little drying.

Threshing continued during the week. No rain has been received since threshing started two weeks ago.

Visitors during the week included Mr. F. A. Coffman, of the Cereal Office, Professor R. I. Throckmorton, Mr. C. O. Granfield, and Dr. Burt, of the Kansas State Agricultural College.
Maximum temperature 101; minimum 38; precipitation Trace.
Evaporation 2.429 inches; wind velocity 8.3 miles.

HAYS:

The weather during the week has been dry and generally warm with one rather sudden drop to 38 degrees for a minimum.

Food crops continue to develop quite satisfactorily although a rain would be helpful at this time. Plowing is becoming difficult because of dry condition of the ground. Most of the field work being done at this time throughout the country is "One-way disking".

Work on the Dry Land project has consisted largely in the harvesting of a crop of alfalfa on the bottom land plots, small amount of tillage, some grading and re-opening of drainage ditches, and soil sampling.
Maximum temperature 98; minimum 38; precipitation Trace.

GARDEN CITY:

Low night temperatures and rather high wind velocity prevailed throughout most of the week. The temperature fell to 40 degrees Thursday night and to 51 Friday night.

Most of sorghums have headed. However, milo is not fully headed. The vegetative growth is heavy on all surface planted plots, while lister planted crops are heading short. None of the sorghums or corn is showing lack of moisture.

Mr. R. I. Throckmorton, Agronomist for the Kansas Station, was a station visitor yesterday, August 24.
Maximum temperature 97; minimum 40; precipitation 0.

TUCUMCARI:

Weather conditions the past week have been more typical of September than of August, nights being cool and somewhat cloudy, while the daily maximum has ranged from 76 to 97. Work has included bird shooting, some cultivating, picking of grapes, picking seed and hauling hay on early cowpea plots, and making of the plant and stalk counts.

While grain yields of the sorghums will probably be as high as the long-time average yield, plants are very short and fodder yields promise to be very light. Cowpeas in rotations are ready for harvest, although they have made only about one-half the growth made last year. Last year Mexican June corn in rotations averaged approximately eight feet in height, while the present crop will perhaps average five feet.

TUCUMCARI:

Cotton is the only crop which has made at least average growth and if warm weather should occur for at least a month a fair crop might result. Early grain sorghums are beginning to ripen, but yields of the May 15 date will be disappointingly low.

An unusually large number of visitors have called during the week. Among those from a distance were Dr. J. L. Lush, of the Animal Husbandry Department, Texas A. and M.; Mr. Chas. Proebestel, Chairman of the New Mexico State Game Commission; and Mr. J. S. Ligon, in charge of bird and game introduction in this state.

The last named men were enthused over the success obtained in pheasant propagation on this station the past few months, stated they would attempt to furnish a few hen or cock pheasants for liberation here to prevent inbreeding, and would arrange to supply the station with a few bobwhite and Gambel quail. The stock of game birds and fish in this state has rapidly increased the past two years as the result of securing capable, enthusiastic men to conduct the work, and through general interest in game restoration brought about by an educational and game-news campaign in the state papers.

Maximum temperature 97; minimum 51; precipitation 0.
Evaporation 2.286 inches; wind velocity 5.4 miles.

Precipitation,	January 1 to August 25	(23 year average, 12.36 inches) (1928 - - - - - - - 10.51 inches)
Precipitation,	October 1 to August 25	(23 year average, 15.22 inches) (1927-1928 - - - 10.80 inches)

BIG SPRING:

Weather conditions were very favorable for field work and crop growth during the first part of the week. Rain started on the night of August 23 and continued intermittently all of the next day. This was one of the very few times when rain was not wanted in this section of the country. Cotton is shedding badly now, and it is thought that dry, warm weather would stop this. The rain will help the grain sorghums as some of them were starting to burn.

Station work this week consisted mainly of harvesting cowpeas in the varieties and also an increase field. A block of Sudan grass was also cut. Other work consisted of hoeing weeds from the roadways, shocking cowpeas and Sudan grass.

BIG SPRING, continued:

Mr. E. F. Chilcott visited the station August 19, and 20, and Mr. R. E. Dickson of the Spur Station, on August 21.

Maximum temperature 98; minimum 56; precipitation .82 inch.

LAWTON:

Nearly a week of hot winds dried up and retarded vegetative growth rapidly. The prospective yield of one bale of cotton per acre that seemed so promising three weeks ago has been reduced more than 50 per cent. Early fruiting is all that remains on the plants at present.

Foliage on all sorghum crops is burned nearly to the top of the plants and maturity of the grain on the May 1 and 15 plantings is untimely. During the week 16 rotation plots of kafir, 3 plots of forage sorghums and 48 plots of grain sorghums were headed and harvested. Probabilities are that harvest of all sorghum crops will be completed within the next few days.

Some of the early varieties of cotton planted April 15 are showing a good many open bolls. A few bolls prematurely ripened by insect damage are also showing in the rotation plots.

Maximum temperatures of 99 to 102 obtained from the 20th to the 23rd, inclusive. A temporary break in temperatures occurred on the 24th, when a maximum of 70 was recorded as well as 0.36 of an inch of precipitation.

WOODWARD:

Weather throughout the week has continued dry, but the last two days have been cloudy and exceptionally cool for this time of the year. Row crops have not suffered as much from drought this week as they did the two or three previous weeks.

Work for the week consisted of picking grapes, repairing plot filled roads to take care of drainage and cut down washing, harvesting corn and cowpeas on both plots and experiments, and shooting sparrows.

A few bolls of cotton are open on the April 20 and May 1 plantings.

Maximum temperature 99; minimum 46; precipitation 0.

Wind velocity 7.3 miles; evaporation 2.315 inches.